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     (FILE 'HOME' ENTERED AT 14:11:33 ON 14 FEB 2003)

     INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUASCI,
     BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA,
     CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB,
     DDFU, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, ...' ENTERED AT 14:11:48 ON
     14 FEB 2003
               SEA (GLCNAC-6-SULFOTRANSFERASE) OR (GLYCOSYL SULFOTRANSFERASE)
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                8   FILE BIOSIS
                3   FILE BIOTECHABS
                3   FILE BIOTECHDS
                2   FILE BIOTECHNO
                1   FILE CANCERLIT
               11   FILE CAPLUS
                1   FILE CONFSCI
               51   FILE DGENE
                5   FILE EMBASE
                5   FILE ESBIOBASE
                8   FILE GENBANK
                5   FILE IFIPAT
                1   FILE LIFESCI
                4   FILE MEDLINE
                1   FILE PROMT
                8   FILE SCISEARCH
                1   FILE TOXCENTER
                5   FILE USPATFULL
                3   FILE WPIDS
                3   FILE WPINDEX
L1              QUE (GLCNAC-6-SULFOTRANSFERASE) OR (GLYCOSYL SULFOTRANSFERASE)
              ---------
               SEA SULFOTRANSFERASE
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               11   FILE ADISCTI
                4   FILE ADISINSIGHT
              115   FILE AGRICOLA
                7   FILE ANABSTR
               37   FILE AQUASCI
               23   FILE BIOBUSINESS
             2623   FILE BIOSIS
               89   FILE BIOTECHABS
               89   FILE BIOTECHDS
              936   FILE BIOTECHNO
              158   FILE CABA
              471   FILE CANCERLIT
             2914   FILE CAPLUS
               13   FILE CEABA-VTB
                2   FILE CEN
              161   FILE CONFSCI
                8   FILE CROPU
              108   FILE DDFB
              165   FILE DDFU
             1964   FILE DGENE
              108   FILE DRUGB
                1   FILE DRUGLAUNCH
              212   FILE DRUGU
               22   FILE EMBAL
             2129   FILE EMBASE
              775   FILE ESBIOBASE
               72   FILE FEDRIP
                3   FILE FROSTI
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              3   FILE FSTA
           1983   FILE GENBANK
              2   FILE HEALSAFE
             62   FILE IFIPAT
            194   FILE JICST-EPLUS
             10   FILE KOSMET
            590   FILE LIFESCI
           1953   FILE MEDLINE
             84   FILE NIOSHTIC
             14   FILE NTIS
             12   FILE OCEAN
            843   FILE PASCAL
             46   FILE PHAR
              3   FILE PHIN
              5   FILE PROMT
           2363   FILE SCISEARCH
              1   FILE SYNTHLINE
           2089   FILE TOXCENTER
            240   FILE USPATFULL
              3   FILE USPAT2
              1   FILE VETB
              2   FILE VETU
             69   FILE WPIDS
             69   FILE WPINDEX
L2             QUE SULFOTRANSFERASE
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     FILE 'CAPLUS, BIOSIS, SCISEARCH, EMBASE, TOXCENTER, MEDLINE, BIOTECHNO,
     PASCAL, ESBIOBASE, LIFESCI, CANCERLIT' ENTERED AT 14:14:28 ON 14 FEB 2003
L3          503 S L1 AND (GLCNAC-6-SULFOTRANSFERASE) OR (GLYCOSYL SULFOTRANSFER
L4            0 S L3 AND (SULFATE ACCEPT? BIND? SITE)
L5            0 S L3 AND (SULFATE BIND?)
L6           73 S L3 AND SULFATE
L7           17 S L6 AND (ACCEPTOR OR DONOR)
L8            4 DUP REM L7 (13 DUPLICATES REMOVED)
L9           37 S L3 AND (BINDING SITE)
L10          10 DUP REM L9 (27 DUPLICATES REMOVED)
L11          46 S L1 AND (GLCNAC-6-SULFOTRANSFERASE OR GLYCOSYL SULFOTRANSFERAS
L12          17 DUP REM L11 (29 DUPLICATES REMOVED)
L13           0 S L12 AND (BINDING ASSAY)
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=> d l12 ibib ab 1-17

L12 ANSWER 1 OF 17 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 1
ACCESSION NUMBER: 2002:251882 CAPLUS
DOCUMENT NUMBER: 136:291000
TITLE: Screening of novel human **glycosyl sulfotransferase** expressed in high endothelial cells (HEC) (GST-3, HEC-GlcNAc6ST) inhibitors
INVENTOR(S): Bistrup, Annette; Rosen, Steven D.; Tangemann, Kirsten; Hemmerich, Stefan
PATENT ASSIGNEE(S): The Regents of the University of California, USA
SOURCE: U.S., 38 pp., Cont.-in-part of U.S. Ser. No. 45,284. CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6365365	B1	20020402	US 1998-190911	19981112
US 6265192	B1	20010724	US 1998-45284	19980320
CA 2322779	AA	19990930	CA 1999-2322779	19990226
WO 9949018	A1	19990930	WO 1999-US4316	19990226
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9927945	A1	19991018	AU 1999-27945	19990226
EP 1062326	A1	20001227	EP 1999-908538	19990226
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2002507409	T2	20020312	JP 2000-537979	19990226
US 2001051370	A1	20011213	US 2001-816825	20010322
US 2002164748	A1	20021107	US 2001-7262	20011108

PRIORITY APPLN. INFO.:

US 1998-45284	A2	19980320
US 1998-190911	A	19981112
WO 1999-US4316	W	19990226

AB Use of a novel human **glycosyl sulfotransferase** expressed in high endothelial cells (HEC) (GST-3 or HEC-GlcNAc6ST) for screening inhibitors as therapeutic agent is provided. Full-length cDNAs contg. the two contigs and predicting CS6T/KSST homologs were obtained by screening a human fetal brain .lambda.ZAP cDNA library (Stratagene, La Jolla, Calif.) with labeled 700-800 bp restriction fragments (from EST 2 for contig 1 and from EST 5 for contig 2). The proteins encoded by these cDNAs were designated as GST 1 and GST 2, where GST denotes "glycosylsulfotransferase." GST 1 has been independently cloned and assigned the name "KSGal6ST by Fukuta et al., J. Biol. Chem. (1997) 272: 32321-8. ESTs potentially coding for novel human **glycosyl sulfotransferases** other than GST-1&2 were identified through a secondary homol. screen, in which the peptide sequences of GST-1 and GST-2 were used as template in two parallel TBLASTN searches against a public (dbest) and a private genomic database (Lifeseq, Incyte Pharmaceuticals, Palo Alto, Calif.). Three cDNA clones which encode three different human homologs for C6ST/KSST have been obtained. The predicted GST proteins are type 2 membrane proteins 411, 484, and 386 amino acids in length, resp. Each has a relatively short transmembrane domain and a short amino terminal cytoplasmic tail. GST-1 is the same as the sulfotransferase

reported by Fukuta et al. supra (1997) and named KSGal6ST. GST-3 (HEC-GlcNAc6ST), is a novel **GlcNAc-6-sulfotransferase**. The novel human glycosylsulfotransferase enzyme of the subject invention has been named human **glycosyl sulfotransferase** 3 or huGST-3 or HEC-GlcNAc6ST. HuGST-3 is capable of sulfating selectin ligands, particularly L-selectin ligands, e.g., GlyCAM-1. Donor compds. from which huGST-3 obtains sulfate groups for transfer to acceptor ligand compds. include 3'-phosphoadenosine 5'-phosphosulfate (PAPS) and the like. Selectin ligands capable of being sulfated through huGST-3 action include E-, P- and L-selectin ligands, particularly L-selectin ligands, such as GlyCAM-1, CD34, MAdCAM-1, Sgp200, podocalyxin, and the like. huGST-3 is strongly predicted to have GlcNAc6-O-sulfotransferase (N-actylglucosamine-6-O-sulfotransferase) activity. Human GST-3 is a 386 amino acid protein having an amino acid sequence as shown in FIG. 1 and identified as SEQ ID NO:01.

REFERENCE COUNT: 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 2 OF 17 SCISEARCH COPYRIGHT 2003 ISI (R)
ACCESSION NUMBER: 2003:1547 SCISEARCH
THE GENUINE ARTICLE: 624GT
TITLE: Facile assembly of cell surface oligosaccharide mimics by copolymerization of carbohydrate modules
AUTHOR: Sasaki K; Nishida Y (Reprint); Tsurumi T; Uzawa H; Kondo H; Kobayashi K
CORPORATE SOURCE: Nagoya Univ, Grad Sch Engn, Dept Mol Design & Engn, Chikusa Ku, Nagoya, Aichi 4648603, Japan (Reprint); Natl Inst Adv Ind Sci & Technol AIST, Tokyo, Japan; Nippon Organon KK, Div Res & Dev, Osaka, Japan
COUNTRY OF AUTHOR: Japan
SOURCE: ANGEWANDTE CHEMIE-INTERNATIONAL EDITION, (DEC 2002) Vol. 41, No. 23, pp. 4463-+.
Publisher: WILEY-V C H VERLAG GMBH, PO BOX 10 11 61, D-69451 WEINHEIM, GERMANY.
ISSN: 1433-7851.
DOCUMENT TYPE: Article; Journal
LANGUAGE: English
REFERENCE COUNT: 23

L12 ANSWER 3 OF 17 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 2003:30334 BIOSIS
DOCUMENT NUMBER: PREV200300030334
TITLE: Novel mass spectrometric methods for the determination of enzyme mechanism and kinetics for **GlcNAc-6-sulfotransferase**, its inhibitors and substrates.
AUTHOR(S): Leary, Julie A. (1); Yu, Yonghao (1); Pi, Na (1)
CORPORATE SOURCE: (1) Dept. of Chemistry, University of California, Berkeley, CA, USA USA
SOURCE: Glycobiology, (October 2002, 2002) Vol. 12, No. 10, pp. 686. print.
Meeting Info.: 7th Annual Conference of the Society for Glycobiology Boston, MA, USA November 09-12, 2002 Society for Glycobiology
. ISSN: 0959-6658.
DOCUMENT TYPE: Conference
LANGUAGE: English

L12 ANSWER 4 OF 17 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 2
ACCESSION NUMBER: 2002:649843 CAPLUS
DOCUMENT NUMBER: 137:334488
TITLE: A 96-well dot-blot assay for carbohydrate sulfotransferases
AUTHOR(S): Verdugo, Dawn E.; Bertozzi, Carolyn R.

CORPORATE SOURCE: Howard Hughes Medical Institute, Center for New Directions in Organic Synthesis, University of California, Berkeley, CA, 94720, USA
SOURCE: Analytical Biochemistry (2002), 307(2), 330-336
CODEN: ANBCA2; ISSN: 0003-2697
PUBLISHER: Elsevier Science
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Here we describe an efficient dot-blot assay for high-throughput screening of two enzymes, heparan sulfate N-deacetylase/N-sulfotransferase (NDST-1) and high-endothelial cell **GlcNAc-6-sulfotransferase** (HEC-GlcNAc-6-ST). The assay proceeds by transfer of 35S-labeled sulfate from [35S]3'-phosphoadenosine-5'-phosphosulfate (PAPS) to the free amino groups of de-N-sulfated heparin (NDST-1), or the 6-hydroxyl groups of N-acetylglucosamine residues linked to a polyacrylamide scaffold (HEC-GlcNAc-6-ST). The 35S-labeled products are then captured on an appropriate membrane, taking advantage of their polymeric architecture. In one step, 35S-labeled byproducts are then eluted from the membrane, leaving spatially sepd. 35S-labeled product "dots" for subsequent quantification. This assay allows for direct product detection on the membrane, obviating excessive washing and elution steps endemic to other assays. The assay was validated by measuring KM values for PAPS and KI values for PAP, the product of sulfuryl transfer. The assay method should be useful for inhibitor screens for both enzymes. In addn., the general assay architecture should be readily applicable to high-throughput screens of other carbohydrate sulfotransferases.

REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 5 OF 17 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 3
ACCESSION NUMBER: 2001:833098 CAPLUS
DOCUMENT NUMBER: 135:370621
TITLE: The MECA-79 antigen and related methods
INVENTOR(S): Fukuda, Minoru; Yeh, Jiunn-Chern; Hiraoka, Nobuyoshi
PATENT ASSIGNEE(S): The Burnham Institute, USA
SOURCE: PCT Int. Appl., 98 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001085177	A1	20011115	WO 2001-US15452	20010510

W: AE, AG, AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EE, EE, ES, FI, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2000-569320 A2 20000511

AB The present invention provides the structure of the MECA-79 antigen and methods of treating L-selectin-mediated conditions by modulating enzymes that are required for formation of this antigen.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 6 OF 17 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:64196 CAPLUS

DOCUMENT NUMBER: 134:127828
TITLE: Cloning of nucleic acid sequences encoding human and murine **glycosyl sulfotransferases**
INVENTOR(S): Rosen, Steven D.; Lee, Jin Kyu; Hemmerich, Stefan
PATENT ASSIGNEE(S): Regents of the University of California, USA
SOURCE: PCT Int. Appl., 128 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001006015	A1	20010125	WO 2000-US19741	20000719
W: AU, CA, JP				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 1210455	A1	20020605	EP 2000-948806	20000719
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
JP 2003505039	T2	20030212	JP 2001-511223	20000719

PRIORITY APPLN. INFO.: US 1999-144694P P 19990720
US 2000-593828 A 20000713
WO 2000-US19741 W 20000719

AB Novel **glycosyl sulfotransferases** (GST-4.alpha., GST-4.beta., and GST-6 from human; GST-4 and GST-6 from mouse) and polypeptides related thereto, as well as nucleic acid compns. encoding the same, are provided. The **glycosyl sulfotransferases** are type 2 membrane proteins having a relatively short transmembrane domain and N-terminal cytoplasmic tail of varying length, and are capable of sulfating selectin ligands, particularly L-selectin ligands (e.g., GlyCAM-1). Genomic DNA sequences encoding human GST-4 and GST-6 and for mouse GST-6 are also provided. The subject polypeptides and nucleic acid compns. find use in a variety of applications, including various diagnostic and therapeutic agent screening applications. Also provided are methods of inhibiting selectin-mediated binding events and methods of treating disease conditions assocd. therewith, particularly by administering an inhibitor of at least one of GST-4.alpha., GST-4.beta., and GST-6.

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 7 OF 17 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 2001:427531 BIOSIS
DOCUMENT NUMBER: PREV200100427531
TITLE: Glycosly sulfortransferase-3.
AUTHOR(S): Bistrup, Annette (1); Rosen, Steven D.; Hemmerich, Stefan
CORPORATE SOURCE: (1) San Francisco, CA USA
ASSIGNEE: The Regents of the University of California; Syntex, Inc.,, Palo Alto, CA, USA
PATENT INFORMATION: US 6265192 July 24, 2001
SOURCE: Official Gazette of the United States Patent and Trademark Office Patents, (July 24, 2001) Vol. 1248, No. 4, pp. No Pagination. e-file.
ISSN: 0098-1133.
DOCUMENT TYPE: Patent
LANGUAGE: English

AB A novel human glycosylsulfotransferase expressed in high endothelial cells (GST-3) and polypeptides related thereto, as well as nucleic acid compositions encoding the same, are provided. The subject polypeptides and nucleic acid compositions find use in a variety of applications, including research, diagnostic, and therapeutic agent screening applications. Also provided are methods of inhibiting selectin mediated binding events and

methods of treating disease conditions associated therewith.

L12 ANSWER 8 OF 17 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 4
ACCESSION NUMBER: 2001:253532 CAPLUS
DOCUMENT NUMBER: 135:30615
TITLE: Biosynthesis of L-Selectin Ligands: Sulfation of Sialyl Lewis x-Related Oligosaccharides by a Family of **GlcNAc-6-sulfotransferases**
AUTHOR(S): Bowman, Kendra G.; Cook, Brian N.; de Graffenried, Christopher L.; Bertozzi, Carolyn R.
CORPORATE SOURCE: Departments of Chemistry and Molecular and Cell Biology and Howard Hughes Medical Institute, University of California, Berkeley, CA, 94720, USA
SOURCE: Biochemistry (2001), 40(18), 5382-5391
CODEN: BICHAW; ISSN: 0006-2960
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The leukocyte adhesion mol. L-selectin mediates lymphocyte homing to secondary lymphoid organs and to certain sites of inflammation. The cognate ligands for L-selectin possess the unusual sulfated tetrasaccharide epitope 6-sulfo sialyl Lewis x (Sia.alpha.2.fwdarw.3Gal.beta.1.fwdarw.4[Fuc.alpha.1.fwdarw.3][SO3.fwdarw.6]GlcNAc). Sulfation of GlcNAc within sialyl Lewis x is a crucial modification for L-selectin binding, and thus, the underlying sulfotransferase may be a key modulator of lymphocyte trafficking. Four recently discovered **GlcNAc-6-sulfotransferases** are the first candidate contributors to the biosynthesis of 6-sulfo sLex in the context of L-selectin ligands. Here we report the in vitro activity of the four **GlcNAc-6-sulfotransferases** on a panel of synthetic oligosaccharide substrates that comprise structural motifs derived from sialyl Lewis x. Each enzyme preferred a terminal GlcNAc residue, and was impeded by the addn. of a .beta.1,4-linked Gal residue (i.e., terminal LacNAc). Surprisingly, for three of the enzymes, significant activity was obsd. with sialylated LacNAc, and two of the enzymes were capable of detectable sulfation of GlcNAc in the context of sialyl Lewis x. On the basis of these results, we propose possible pathways for 6-sulfo sialyl Lewis x biosynthesis and suggest that sulfation may be an early committed step.
REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 9 OF 17 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 5
ACCESSION NUMBER: 2000:577737 CAPLUS
DOCUMENT NUMBER: 133:331305
TITLE: Differential Carbohydrate Recognition of Two **GlcNAc-6-sulfotransferases** with Possible Roles in L-Selectin Ligand Biosynthesis
AUTHOR(S): Cook, Brian N.; Bhakta, Sunil; Biegel, Teresa; Bowman, Kendra G.; Armstrong, Joshua I.; Hemmerich, Stefan; Bertozzi, Carolyn R.
CORPORATE SOURCE: Departments of Chemistry and Molecular and Cell Biology, University of California, Berkeley, CA, 94720, USA
SOURCE: Journal of the American Chemical Society (2000), 122(36), 8612-8622
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Two human **GlcNAc-6-sulfotransferases**, CHST2 and HEC-GlcNAc6ST, have been recently identified as possible contributors to the inflammatory response by virtue of their participation in L-selectin ligand biosynthesis. Selective inhibitors would facilitate

their functional elucidation and might provide leads for antiinflammatory therapy. Here we investigate the crit. elements of a disaccharide substrate that are required for recognition by CHST2 and HEC-GlcNAc6ST. A panel of disaccharide analogs, bearing modifications to the pyranose rings and aglycon substituents, were synthesized and screened for substrate activity with each enzyme. Both **GlcNAc-6-sulfotransferases** required the 2-N-acetamido and 4-hydroxyl groups of a terminal GlcNAc residue for conversion to product. Both enzymes tolerated modifications to the reducing terminal pyranose. Key differences in recognition of an amide group in the aglycon substituent were obsd., providing the basis for future glycomimetic inhibitor design.

REFERENCE COUNT: 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 10 OF 17 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:258600 CAPLUS
DOCUMENT NUMBER: 133:85947
TITLE: Discovery of carbohydrate sulfotransferase inhibitors from a kinase-directed library
AUTHOR(S): Armstrong, Joshua I.; Portley, Adam R.; Chang, Young-Tae; Nierengarten, David M.; Cook, Brian N.; Bowman, Kendra G.; Bishop, Anthony; Gray, Nathanael S.; Shokat, Kevan M.; Schultz, Peter G.; Bertozzi, Carolyn R.
CORPORATE SOURCE: Department of Chemistry, University of California, Berkeley, Berkeley, CA, 94720, USA
SOURCE: Angewandte Chemie, International Edition (2000), 39(7), 1303-1306
CODEN: ACIEF5; ISSN: 1433-7851
PUBLISHER: Wiley-VCH Verlag GmbH
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The authors report the first carbohydrate sulfotransferase inhibitors from a kinase-directed library. The well-characterized **GlcNAc-6-sulfotransferase** NodH from Rhizobium meliloti was used as the initial sulfotransferase target. Six inhibitors with IC50 values in the micromolar range were identified.

REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 11 OF 17 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:559724 CAPLUS
DOCUMENT NUMBER: 133:221300
TITLE: L-selectin ligand sulfotransferase (LSST)
AUTHOR(S): Hiraoka, Nobuyoshi
CORPORATE SOURCE: The Burnham Institute, USA
SOURCE: Immunology Frontier (2000), 10(4), 248-252
CODEN: IMFREG; ISSN: 0917-0774
PUBLISHER: Medikaru Rebyusha
DOCUMENT TYPE: Journal; General Review
LANGUAGE: Japanese
AB A review with 16 refs., on the roles of L-selectin and L-selectin ligands in extravascular migration of leukocytes, structure of sugar chain of L-selectin ligand expressed in high endothelial venules (HEV), biosynthesis of 6-sulfo sialyl Lewis X (sLeX) and 6'-sulfo sLeX, identification of sulfotransferases (LSST and **GlcNAc-6-sulfotransferase**; G6ST), their distribution and substrate specificity, and interaction between L-selectin and L-selectin ligands modified by LSST and G6ST. LSST is predominantly expressed in HEV and exhibits catalytic preference for core 2-branched mucin-type O-glycans.

L12 ANSWER 12 OF 17 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:626310 CAPLUS
DOCUMENT NUMBER: 131:254317

TITLE: Cloning of human and murine glycosylsulfotransferase-3 and its role in selectin-mediated binding events
INVENTOR(S): Bistrup, Annette; Rosen, Steven D.; Tangemann, Kirsten; Hemmerich, Stefan
PATENT ASSIGNEE(S): The Regents of the University of California, USA; Syntex, Incorporated
SOURCE: PCT Int. Appl., 60 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9949018	A1	19990930	WO 1999-US4316	19990226
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6265192	B1	20010724	US 1998-45284	19980320
US 6365365	B1	20020402	US 1998-190911	19981112
CA 2322779	AA	19990930	CA 1999-2322779	19990226
AU 9927945	A1	19991018	AU 1999-27945	19990226
EP 1062326	A1	20001227	EP 1999-908538	19990226
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2002507409	T2	20020312	JP 2000-537979	19990226

PRIORITY APPLN. INFO.:
US 1998-45284 A 19980320
US 1998-190911 A 19981112
WO 1999-US4316 W 19990226

AB Novel mammalian glycosylsulfotransferases expressed in high endothelial cells (GST-3) and polypeptides related thereto, as well as nucleic acid compns. encoding the same, are provided. The novel mammalian enzyme is a type 2 membrane protein having a relatively short transmembrane domain and a short N-terminal cytoplasmic tail. GST-3 is capable of sulfating selectin ligands, particularly L-selectin ligands., e.g., GlyCam-1, and is predicted to have N-acetylglucosamine-6-O-sulfotransferase activity. Human GST-3 is 386 amino acids in length, is highly glycosylated, and its expression is highly restricted; for example, human GST-3 is expressed in high endothelial cells (HEC) but not tonsillar lymphocytes or primary cultured human umbilical vein endothelial cells. Mouse Gst-3 is a 388 amino acid protein. Also provided are keratin sulfate galactosyl-6-sulfotransferase (KSGal6ST) homologs that are selectively expressed in HEC. The subject polypeptides and nucleic acid compns. find use in a variety of applications, including research, diagnostic, and therapeutic agent screening applications. Also provided are methods of inhibiting selectin-mediated binding events and methods of treating disease conditions assocd. therewith, particularly by administering an inhibitor of at least one of GST-3 or KSGal6ST, or homologs thereof.
REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 13 OF 17 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 6
ACCESSION NUMBER: 1999:321337 CAPLUS
DOCUMENT NUMBER: 131:141238
TITLE: Sulfotransferases of two specificities function in the reconstitution of high endothelial cell ligands for L-selectin

AUTHOR(S): Bistrup, Annette; Bhakta, Sunil; Lee, Jin Kyu; Belov, Yevgeniy Y.; Gunn, Michael Dee; Zuo, Feng-Rong; Huang, Chiao-Chain; Kannagi, Reiji; Rosen, Steven D.; Hemmerich, Stefan
CORPORATE SOURCE: Department of Anatomy and Program in Immunology, University of California, San Francisco, CA, 94143, USA
SOURCE: Journal of Cell Biology (1999), 145(4), 899-910
CODEN: JCLBA3; ISSN: 0021-9525
PUBLISHER: Rockefeller University Press
DOCUMENT TYPE: Journal
LANGUAGE: English

AB L-selectin, a lectin-like receptor, mediates rolling of lymphocytes on high endothelial venules (HEVs) in secondary lymphoid organs by interacting with HEV ligands. These ligands consist of a complex of sialomucins, candidates for which are glycosylation-dependent cell adhesion mol. 1 (GlyCAM-1), CD34, and podocalyxin. The ligands must be sialylated, fucosylated, and sulfated for optimal recognition by L-selectin. Our previous structural characterization of GlyCAM-1 has demonstrated two sulfation modifications, Gal-6-sulfate and GlcNAc-6-sulfate in the context of sialyl Lewis x. The authors now report the cloning of a Gal-6-sulfotransferase and a **GlcNAc-6-sulfotransferase**, which can modify GlyCAM-1 and CD34. The Gal-6-sulfotransferase shows a wide tissue distribution. In contrast, the **GlcNAc-6-sulfotransferase** is highly restricted to HEVs, as revealed by Northern anal. and in situ hybridization. Expression of either enzyme in Chinese hamster ovary cells, along with CD34 and fucosyltransferase VII, results in ligand activity, as detected by binding of an L-selectin/IgM chimera. When coexpressed, the two sulfotransferases synergize to produce strongly enhanced chimera binding.

REFERENCE COUNT: 86 THERE ARE 86 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 14 OF 17 SCISEARCH COPYRIGHT 2003 ISI (R)
ACCESSION NUMBER: 1998:906629 SCISEARCH
THE GENUINE ARTICLE: 137GQ
TITLE: Cloning and characterization of a human **glycosyl sulfotransferase** that is restricted to high endothelial venules and confers expression of the L-selectin recognition epitope 6-sulfo sialyl Lewis X.
AUTHOR: Bistrup A (Reprint); Bakhta S; Tangemann K; Lee J K; Gunn M D; Belov Y Y; Kannagi R; Hemmerich S; Rosen S D
CORPORATE SOURCE: UNIV CALIF SAN FRANCISCO, SAN FRANCISCO, CA 94143; ROCHE BIOSCI, PALO ALTO, CA; AIICHI CAN RES INST, NAGOYA, AICHI, JAPAN
COUNTRY OF AUTHOR: USA; JAPAN
SOURCE: MOLECULAR BIOLOGY OF THE CELL, (NOV 1998) Vol. 9, Supp. [S], pp. 718-718.
Publisher: AMER SOC CELL BIOLOGY, PUBL OFFICE, 9650 ROCKVILLE PIKE, BETHESDA, MD 20814.
ISSN: 1059-1524.
DOCUMENT TYPE: Conference; Journal
FILE SEGMENT: LIFE
LANGUAGE: English
REFERENCE COUNT: 0

post-date

L12 ANSWER 15 OF 17 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 7
ACCESSION NUMBER: 1998:771404 CAPLUS
DOCUMENT NUMBER: 130:93019
TITLE: Glycosyltransferase and sulfotransferase activities in chick corneal stromal cells before and after in vitro culture
AUTHOR(S): Nakazawa, Kiyoshi; Takahashi, Ikuko; Yamamoto, Yoshiaki

CORPORATE SOURCE: Section of Radiochemistry, Faculty of Pharmacy, Meijo University, Tempaku-ku, Nagoya, 468-8503, Japan
SOURCE: Archives of Biochemistry and Biophysics (1998), 359(2), 269-282
CODEN: ABBIA4; ISSN: 0003-9861
PUBLISHER: Academic Press
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The activities of various glycosyltransferases and sulfotransferases were detd. before and after in vitro culture of the cells. The activities of N-acetylglucosaminyltransferase, galactosyltransferase, and sulfotransferase, which are involved in keratan sulfate synthesis, were assayed using pyridylaminated N-acetyllactosamine-contg. oligosaccharides as acceptor substrate; the activities of N-acetylgalactosaminyltransferase , glucuronyltransferase, and sulfotransferase, which are involved in chondroitin sulfate synthesis, were assayed using pyridylaminated chondro-oligosaccharides as acceptor substrate. Of these enzymes, the sulfotransferase activity toward degalactosylated, pyridylaminated lacto-N-neotetraose and N-acetyllactosamine dimer (probably **GlcNAc -6-sulfotransferase**) decreased markedly after in vitro culture, whereas the galactosyltransferase activity increased. The chondroitin sulfate-sulfotransferase activities toward pyridylaminated chondro-oligosaccharides hardly changed after in vitro culture. The marked decrease in the activity of the keratan sulfate-sulfotransferase corresponds to the marked decrease in keratan sulfate biosynthesis when the cells are cultured in vitro. These findings suggest that keratan sulfate-sulfotransferase (**GlcNAc-6-sulfotransferase**) is a key enzyme in keratan sulfate biosynthesis and that its decrease is primarily responsible for the marked decrease in keratan sulfate synthesis after in vitro culture. (c) 1998 Academic Press.

REFERENCE COUNT: 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 16 OF 17 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1999:17006 BIOSIS
DOCUMENT NUMBER: PREV199900017006
TITLE: Cloning and characterization of a human **glycosyl sulfotransferase** that is restricted to high endothelial venules and confers expression of the L-selectin recognition epitope 6-sulfo sialyl Lewis X.
AUTHOR(S): Bistrup, Annette (1); Bakhta, Sunil; Tangemann, Kirsten; Lee, Jin Kyu; Gunn, Michael D.; Belov, Yevgeniy Y.; Kannagi, Reiji; Hemmerich, Stefan; Rosen, Steven D.
CORPORATE SOURCE: (1) Univ. Calif., San Francisco, CA USA
SOURCE: Molecular Biology of the Cell, (Nov., 1998) Vol. 9, No. SUPPL., pp. 124A.
Meeting Info.: 38th Annual Meeting of the American Society for Cell Biology San Francisco, California, USA December 12-16, 1998 American Society for Cell Biology . ISSN: 1059-1524.
DOCUMENT TYPE: Conference
LANGUAGE: English

post date

L12 ANSWER 17 OF 17 SCISEARCH COPYRIGHT 2003 ISI (R)
ACCESSION NUMBER: 1998:810754 SCISEARCH
THE GENUINE ARTICLE: 130CC
TITLE: Cloning and functional characterization of a human **glycosyl sulfotransferase**, that is highly restricted to high endothelial venules and confers expression of the L-selectin recognition epitope 6-sulfo sialyl Lewis x.
AUTHOR: Hemmerich S (Reprint); Bistrup A; Bakhta S; Gunn M D; Kannagi R; Rosen S D

CORPORATE SOURCE: ROCHE BIOSCI, PALO ALTO, CA; UNIV CALIF SAN FRANCISCO, SAN FRANCISCO, CA 94143; AIICHI CANC RES INST, NAGOYA, AICHI, JAPAN
COUNTRY OF AUTHOR: USA; JAPAN
SOURCE: GLYCOBIOLOGY, (NOV 1998) Vol. 8, No. 11, pp. 29-29.
Publisher: OXFORD UNIV PRESS, GREAT CLARENDON ST, OXFORD OX2 6DP, ENGLAND.
ISSN: 0959-6658.
DOCUMENT TYPE: Conference; Journal
FILE SEGMENT: LIFE
LANGUAGE: English
REFERENCE COUNT: 0